1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

even during this halcyon term no Seri save Kolusio and the Altar outlaw ever learned to live in a house; none but these and Mashém wore hats habitually; and, despite the fact that they often witnessed and sometimes playfully or perforce participated in the processes, no Seri ever really encompassed the idea of house-building or even of making adobe. Though surrounded by horses when near the rancho, they never learned to ride nor to use the animals otherwise than for immediate slaughter and consumption; though in frequent sight of skilful ropers, they never fully grasped the idea of the riata, preferring to seize their prey with hands and teeth; though familiar with the agricultural operations of the rancho, they never turned a sod nor planted a seed on their own account; though in frequent sight of cooking, they seldom began and never finished the process with their own food; though acquainted with firearms, they continued to regard them as thaumaturgic devices, and chose the bow and arrow for actual use; though submitting to apparel on the frontier, they commonly cast away the incumbrances on returning to their lairs; and no Mexican or other Caucasian ever saw within their esoteric life—their names remained unrevealed, their hair remained sacred, their mourning for the dead was unheard save at a distance, and no alien, even unto today, has ever seen the birth of their babes, the christening of their children, the burial of their dead, or the ceremonies of their shrines. The Seri and the whites were, indeed, mutually tolerant; but, so far as concerns mutual sympathy, the toleration was almost precisely on a par with that between the ranchero and the vulture-flock that scavengers his corrals—and when depredation began the toleration was of a piece with that between householders and their unwillingly domiciled rodents. It is not too much to say that the interracial mistrust and hatred of the Western Hemisphere culminates on the borders of Seriland; though the antipathy is commonly regarded by the alien tribesmen and the Mexicans as other than racial, since the Seri are felt to be hardly human—a feeling fully shared by the Seri, who undoubtedly deem themselves more closely akin to their deified bestial tutelaries than to the hated humans haunting their borders.

Even during the Encinas régime the Seri came in occasional contact with aliens on other parts of the frontier: on Hacienda Serna, the somewhat remoter borderland outpost on the north, the relations between the landholders and the Seri were analogous to those on the Encinas plains, though less acute in the ratio of relative distance. Occasionally small parties of warriors journeyed to Guaymas[1] on balsas or on foot to barter pelican-skin robes for Caucasian commodities, chiefly aguardiente and manta; still more rarely similar pilgrimages were made to the outskirts of Hermosillo; a few marauding raids were made to the ranchos lying near Cieneguilla and Caborca; and a num-

[1] The accompanying plate XII is reproduced from a photograph of a small group of Seri traders taken near Guaymas, probably during the eighties. It was kindly furnished by F. A. Ober, who purchased it in Guaymas.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

481 Examples of Seri fleetness and endurance might be multiplied indefinitely, and many of still more striking character might be adduced; but these instances, all attested by several witnesses, all corroborated by independent facts, and all consistent with the observations of the 1894 expedition, seem fairly to represent one aspect of the pedestrian habit of the tribe.

412 A trait of the Seri hardly less conspicuous than their pedestrian habit is habitual use of hands and teeth in lieu of the implements characteristic of even the lowly culture found among most primitive tribes. Perhaps the most nearly universal implement is the knife—at first of shell, tooth, bone, or wood, later of stone, and last of metal—and hardly a primitive tribe known from direct observation or from relics has been found independent of this most serviceable implement; yet the Seri may be described with reasonable accuracy as a knifeless folk. Awls and marlinspikes of bone and wood, shell cups, and protolithic mullers or hammers are found in numbers in their hands, on their rancheria sites, and in their ancient shell accumulations, while rudely chipped stone arrowp ints are sparsely scattered over their range; yet not a single knife of stone or other wrought substance has been found in their territory or in their possession, save for an occasional metal knife obtained by theft or barter. And the habit of dispensing with this primary implement is attested both by everyday customs and by the traditions and chronicles concerning the tribe. Thus, various observers (notably Hardy) have recorded the features and uses of balsas, harpoons, ollas, etc, yet no records of cutting implements have been found; similarly the chronicles contain records of barter between the Seri and the Sonoreuse through which the savages acquired aguardiente, manta, garments, sugar, grain, etc, yet no record is known of the leading articles of exchange to practically all other tribes of the continent, viz, cutlery; and in like manner the local traditions recount the constant desire of the Seri for liquor and tobacco, saccharine and other food substances, clothing or material for making it, tin cups, lard-cans, and other metallic utensils, as well as nails for harpoons and hoop-iron for arrowpoints, in addition to firearms and ammunition; yet the recounters are significantly silent on the subject of knives.

[172] [439] [439]

Conformably, the 60 Seri gathered near Costa Rica in 1894 made it their business to pick up or beg all sorts of industrial products and materials, yet apparently did not possess so many as a dozen knives in the entire band; and while protolithic implements, ollas, shell cups, paint-stones, etc., were seen in constant use, none of the men, women, or children were observed to use knives for cutting meat or for any other customary purpose. Among the supplies laid on top of the 264 jacal shown in plate X, to keep them out of the way of the dogs, was a hind leg of a horse, from femur to hoof (some three days dead and still

McGee E-5 (1894-1895)1898 NU31 Seri NU31

281 apparently dried without dressing, together with
513 skins of rabbits, mountain sheep, antelope, etc, usually tattered or torn into fragments. Commonly the hides and pelts are nearly or quite in natural condition, retaining the hair, fur, or feathers. The dressing is apparently limited to scratching and gnawing away superfluous flesh, followed by some rubbing and greasing; tanning is apparently unknown. By far the most abundant of the collective possessions are the pelican-skin robes, which form
[439] the sole article of recognized barter with aliens. The aggregate stock accumulated at any time is but meager, never too much to be borne on the heads and backs of the clan in case of unexpected decamping.

412 Aside from the painting paraphernalia, there is
302 but a single conspicuous toilet article; this is a hair-brush made of yucca fiber bound into cylindrical form, as illustrated in figure 29. This article is in frequent use; both women and men give much attention to brushing their own long and luxurious locks and cultivating the hair and scalps of their children, the process being regarded as not only directly useful but in some measure sacramental. Ordinarily the hair is parted in the middle and brushed straight, the tresses being permitted to wander at will and never braided or bound or restrained by fillets save in imitation of Caucasian customs on the frontier; though in certain ceremonies the pelage is gathered in a lofty knot on the top-head.[1]

854 The Seri cradle is merely a bow of paloblanco or other switch with rude cross-sticks lashed on, as shown in figure 30. On this is laid a small pelican-skin robe, with a quantity of pelican down for a diaper, and perhaps a few pelican feathers attached as plumes to wave over the occupant's face; though on the frontier these primitive devices are largely replaced by rags.

283 Among the important appurtenances of Seri life are the cords used for belts and necklaces, as well as for the attachment of ceremonial headdresses, for converting the kilts into bags, and for numberless minor purposes. The finest of these are made from human hair; and for this purpose the combings are carefully kept, twisted into strands, and wound on thorns or sticks in slender bobbins, such as that illustrated

FIG. 31.—Hair spindle.

[1] Cf. Keely, Proceedings, p. 230.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

177 411 726 included a heavy Springfield "remodeled" rifle, lacking not only ammunition but breechblock and firing pin; while Don Andrés Noriega, of Costa Rica, and L. K. Thompson, of Hermosillo, described a rifle of modern make captured similarly two years before, which was in good working order and charged with a counterfeit cartridge ingeniously fashioned from raw buckskin in imitation of a center-fire brass shell and loaded with a polished stone bullet.[1] The finders opined that the rifles were carried to bluff the enemy, and even that the counterfeit cartridge was designed to do deadly execution; but it would better accord with Seri customs, and with the law of piratical acculturation which they typify,[2] to infer that the weapons were regarded rather as symbols of mystical potencies than as simple scarecrows. Of related import were two or three pseudomachetes made from rust-pitted cask hoops, reported by the majordomo and several vaqueros at Costa Rica; and of still greater significance was a machete picked up in a just-abandoned jacal by Don Ygnacio Lozania—veteran of the Andrade expedition and the Encinas conquest—which was laboriously rasped and scraped out of paloblanco wood, colored in imitation of iron blade and mahogany handle by means of face-paints, and even furnished with "eyes" replacing the handle-rivets, in the form of embedded iron scales. Some of the Seri are familiar with the normal use of firearms, as was demonstrated by the Robinson and other episodes, and many of them modernly make some use of machetes or other knives, as shown by various rudely whittled wooden artifacts; yet the burden of proof indicates that the chief use of the Caucasian's weapons in the heat of actual warfare is shamanistic and symbolic. This interpretation is, in fact, practically established by the experience of the frontier; for the vaqueros and local soldiery have little fear of the ill-understood firearms and clumsily handled machetes occasionally seen in Seri hands, though they dread unspeakably the necromantic arrows and flesh-rending teeth with which the agile foes are credited.

174 324 The mystical potency ascribed to Caucasian firearms and cutlery by the zoomimic tribesmen is of interest as a reflection of motives and methods pervading the entire range of their activities; at the same time it suggests the genesis of the aberrant technolithic craft displayed in arrow-chipping. The information obtained from Mashém and his mates concerning chipped arrowpoints implied that the process was hieratic and little understood by the body of the tribe, its place in the tribal knowledge, indeed, being similar to that of the brewing of the arrow "poison", which is the special work of shamans; and this information, comporting as it does with the rarity of the chipped points and

[439]

[1] The imitative skill of the Seri was illustrated at Costa Rica some years ago, when the petty accounts for labor, etc, were kept by means of tokens stamped from sheet brass. While a Seri rancheria was maintained near the ranche, the storekeeper detected a number of counterfeits of his tokens, so well executed as to pass readily over the counter in ordinary exchange—and after extended detective work the counterfeiting was traced to the rancheria.

[2] American Anthropologist, vol. xi, August, 1898, pp. 345-348.

2: Kroeber E-5 (1930)1931 NU31 Seri NU31

middle. Two imperfect wind-breaks of brush, less than a quarter of a circumference in curvature, stood near the camp..

On the subject of textiles and textile clothing (pp. 171, 225-232), McGee is necessarily vague on account of lack of specimens. He says that native kilts, from waist to knee, were either of birdskin or "a rectangle of coarse textile fabric," "woven probably on some primitive device"; that it is practically certain that a long-sleeved, short-bodied shirt or wammus is "of local aboriginal design" and was "made primitively of haircloth or native textiles"; that the probable genetic series of Seri garments was: 1, the pelican-skin robe used as a kilt, 2, the textile shirt, 3, the textile kilt; and that Seri fabrics, according to a Mexican informant, "resemble coarse bagging, and are woven or netted quite plainly."

Human hair cord could be netted, or twined in double weft into basket-like bags or mats; it could hardly be woven into cloth without a loom. The same holds of *ixtle*, agave fiber. Bast of willow, cottonwood, beanstalk, such as was spun and twined, and perhaps woven on a limited scale, by the Colorado river Yuman tribes, was not available to the Seri, though they may have had nearly equally soft substitutes, even in their desert. Cotton they did not have. *Ixtle* is a strong, harsh fiber, excellent for cordage, nets, open-mesh bags, and the like, and still largely used in Mexico for such purposes. It would also serve well for fringe-aprons, for which the Lower Californians used it. A fabric from it would be rough and stiff, giving little warmth, not very satisfactory for a kilt, and quite unserviceable for a fitted garment like a sleeved shirt. Cotton was the prevailing garment material found along the coast by the first Spaniards, north up to the Cahita (Ka'ita, namely Tehueco, Mayo, Yaqui); here *ixtle* became more prevalent though cotton persisted; but the type of garment is not clear.

As to looms, *ixtle* is today woven into carrying bags on a heddled belt-loom by the Nahua-speaking Indians of Sinaloa. The Mayo weave woolen girdles on a similar loom. They also weave woolen blankets on a demountable horizontal loom, the warp passing continuously around the two heavy yarn beams. It is not clear whether this is a hybrid Spanish or a purely native apparatus. The Opata and Pima Bajo loom is not known. The American Pima weave cotton both on a belt-loom and on a staked horizontal loom, but with warps in a single plane.[8] It is difficult to imagine these looms existing among the Seri, except the first mentioned; and this would not yield them much in the way of garments. There is no reason why they should have worn more than the Lower Californian women's fringe-aprons, *supplemented perhaps by* birdskin blankets and loin covers. They no doubt secured occasional garments from neighboring tribes, as they gladly but irregularly wear those of whites today; and this

[8] Russell, BAE-R, 26:143-153, 1908.

2: Kroeber E-5 (1930) 1931 NU31 Seri NU31

is what their "shirt" (McGee, pl. 29) probably was. The fabrics of McGee's Mexican informant may refer to gunny-sacks made over into improvised imitations of civilized garments; or to single-element carrying bags. It is entirely possible that contact with the cloth-weaving tribes of Sonora long ago induced the Seri to shrink from habitual complete nudity; but it is difficult to imagine them producing even a coarse wearable cloth. McGee's interpretation of the historic sequence of Seri garments is of course wholly speculative.

The cradle shown by McGee (p. 226, fig. 30) consists of a kite-shaped hoop with eight sticks tied across it and a lashing thong passed back and forth across it half-a-dozen times. Even allowing for some slip of the parts in transport to Washington, this specimen is quite typical in Seri disregard of evenness, neatness, order, or finish. The Yaqui cradle illustrated by Hrdlička[1] consists of eight or nine lengthwise sticks or canes twined close together. The Lower Californians used a basket or a turtleshell. The Gila Pima and river Yuman cradle is of "ladder" type, and therefore similar in structure to the Seri except that it lacks the point at the bottom and has the sides parallel; it also carries a hood of wickered or twilled splints. As regards basic structure, one form of Maidu cradle is most similar to the Seri; just as the plan of the Yaqui one reappears among Miwok, Yokuts, and Mono a little further south in California.[2] It appears from this irregular distribution that so simple an apparatus as the open or flat baby-carrier, which can be just as serviceable without a definite technique or style entering into it, is likely to vary locally without much significance, and that its forms will indicate historic connection only when they are parallel in a number of details. In these respects it resembles house types. In both these objects, new "inventions," certainly of detail elements and perhaps of basic structure, seem to be readily made and adopted.

McGee's finding (p. 247) that the Seri are "not habitual stone arrow-makers" has a parallel among the river Yumans, and, at least partially, among the remaining Sonoran tribes. His conclusion (p. 259) that the *yerba de la flecha* (magot, Sebastiano bilocularis?) was an Opata but probably not a Seri arrow poison, seems sound. The plant was shown me on the island, and the Seri knew it as venomous, but volunteered nothing as to using it on arrows.

That the question of Seri cannibalism must be left open, with a preponderance of evidence against the practice (p. 263), also seems a conservative judgment.

As to shields, McGee learned of loose pelican pelts and turtle-shells (p. 264), I of armor and a large upright shield of hide. Both accounts may *be right, one referring to emergency pick-ups, the other* ——— to prepared defence or attack.

[1] AA 6, pl. 9, 1904.

[2] BAE-B 78:238, fig. 48, pls. 38, 48.

S.Davis & Dawson F-5 (1922-1940) 1945
MU31 Seri MU31

621 are four or five hundred people there, more during the peak of the season, and some fifty or more wattle and daub shacks arranged without plan or order, facing at every angle, but all near the beach on which the fishing boats land and are pulled up on shore. Refrigerated trucks carry fifteen to twenty-five tons of fish away daily during the height of the season, mostly the huge endemic totuava (Fig. 21). These great fish are dragged from the boats and lined up on the shore, where the heads are chopped off and the entrails are pulled out and left to be carried away by the tides or consumed by hundreds of [131] scavenger gulls of the beach. A quarter mile north of Kino is the present-day Seri village where nearly all the Seris now live semi-permanently because of the easy money and [439] living. They have their own boats, fish a [262] little for profit, and also bake the discarded fish heads for food. The Seri dwellings are 342 now scarcely inferior to many of the wattle and daub shacks of the Mexicans. Indeed, [439] many of the Mexican shacks are built by Seris in exchange for manta cloth or food.

[p. 268(B)]

4:Malkin E-5 (1953-1955) 1956 NU31 Seri NU31

SERI ETHNOECOLOGY: A PRELIMINARY REPORT[1]

Sonya Malkin

121 In this paper I shall attempt to summarize briefly some of the possibilities inherent in ethnoecological studies. Ethnozoologies, published so far, have either stressed only the economic or medicinal uses of animals or have just included them as part and parcel of mythology and religion. The emphasis here, on the other hand, is primarily on the aboriginal knowledge of natural history and naturalistic concepts about animals. A comparison with the actual situation in nature will be frequently made in order to test the acuteness of the native observation.

This account is part of a wider comparative study in ethnozoology of several aboriginal groups. Additional field work has recently been completed among two other tribes, the Cora in Nayarit, Mexico, and the Sumu in northern Nicaragua.

Ethnozoological studies of such scope require much more extensive background in natural history than anthropologists or even zoologists today are likely to have. One has to deal with very diverse groups of animals and I have found my own knowledge of the subject repeatedly inadequate on many occasions. It is hoped that a study of this sort will attract individuals who will cover more satisfactorily the entire range of the animal kingdom.

Economic Uses

825 262 439 Almost all major classes of animals, with the exception of the insects, are used for food. Only a very limited number of species serve other purposes such as trade with the Mexicans. Among these are various species of large fishes, sea-turtles and a number of shells. None are used for the basic non-dietary products such as utensils, clothing, and other items of the material culture, for these are purchased ready-made in the local Mexican "tiendas" (small general store).

925 [439] As a major source of income for their livelihood the Seris depend mainly upon a few commercially significant species of large fish and sea-turtles. Yet they do exploit a wide range of the animal environment as a source of additional food. Of the total number of species of animals[2] upon which information has been available, 65% were reported as economically exploited. The table below gives the breakdown of the major groups.

[p. 73]

Class	Species Reported	Species Exploited	Percentages
Mammals	21	2	
Birds	24	6	
Reptiles and Amphibians	25	11	
Fish	44	23	
Molluscs	36	21	
Crustaceans	10	2	
Total:	160	72	45

These figures show clearly the dependence of the Seris on marine life for a major source of their diet. Today, pinta, boya, cabon and sardineta are their primary source of income with meat and sea-turtles ranking second in importance. Several species of clams, limpets and gastropods supplement this diet.

All other animals represent only incidental additions to the menu. During the last war, sharks and mantas were hunted extensively for their liver, then a source of vitamin D. But since the war, the demand for shark liver has declined and because of this, a considerable income for the Seris has been lost. Shark and manta fishing have been abandoned for these fish were taken only for the commercially profitable liver and not for their flesh.

Fishing and Hunting

Seri fishing techniques are simple. In the past they used double-pronged spears and for the larger fish, harpoons. Today the spears are employed chiefly in fishing while the harpoons are reserved exclusively for sea-turtles. Hook and line fishing was introduced after 1930, as Kroeber (1931) saw none during his visit to Kino in 1930, and it is now the standard method of fishing. An abortive and unsuccessful attempt was made several years ago with net fishing. Another change has occurred within the past fifty years. The old balsas have been replaced by flat-bottomed plank boats outfitted with five-horsepower motors or sails. These motors, incidentally, are leased from the Mexican fish traders because none of the Seris are rich enough to own one.

Bait is obtained by dynamiting schools of small fish in coastal waters or by collecting them at low tide in the tidal pools and from under rocks. Fishing usually begins at dawn and lasts until noon when, as a rule, all of the "pangas", as the boats are called, return to Desemboque. In stormy weather no fishing expeditions are made and when this occurs, starvation becomes a real menace. Harpooning of sea-turtles takes place far out in the Gulf. It is done only at night in exceptionally calm weather by the light of torches or Coleman lanterns.

Hunting as it is done today has changed from the time of McGee's visit in 1894-95. The bow and arrow has disappeared completely except for a crude and diminutive form used as a toy by small boys. Iron spears once used in shark and manta hunting are now carried primarily as a weapon against the numerous and much feared rattlesnakes. They are said to be used occasionally in the peccary hunt. Old .22s or 30/30 rifles are owned by several of the men, some of whom specialize in hunting.

[89 cont.]

000 abundant flying and, especially, marine fauna.

For a modern technology, their region has great resources,
511 but for the culture of the Seri it is frankly inhospitable. The standard of living is exceedingly low, as is proclaimed by natives and foreigners and as is demonstrated by the illnesses and hunger that weaken the population.

[90] The Seri truly form part of our Western society, in
226 so far as they catch fish, with fishhooks and motorboats, to sell
●439 in the markets of Hermosillo, Nogales, and Tucson, and they
[177] obtain payments in national specie and coin. The part that
182 they form, however, has its own internal structure, which regulates the relations with the environment and among its mem-
[161] bers, even though a group of 218 persons, which suffers severe alterations in percentages from disasters like the sinking of a boat or strokes of good luck like the establishment of a prosperous fishing camp, is almost insignificant for the nation.

Most probably they have never been much more numerous, and they must not have had great cohesion in the past, a situation explicable in view of their nomadic gathering economy.
621 Toward the close of the 18th century they were divided into bands, of which it is known that the most important were the Guaymas, Upanguaymas, Tepocas, Tiburones, and Salineros.
[648] They banded together at various times in order to defend themselves and to attack the nuclei of Mexicans of the zone, achieving combined action, but without effective political unity.

619 At present they seem to form a single group without marked subdivisions, although they recognize affiliations like that of "Tiburones," "half-Papago," etc., which appear to have little real classificatory significance.

184 There is great uniformity: they speak a single language
619 incomprehensible to the rest of humanity; they have a relatively uniform culture, and there is tribal unification for matters involving sexual exchange.

361 The most obvious relations are spatial; they have important settlements that sprung up around the fishing establishments and are more or less permanently occupied. Of these, "El Desemboque," close to the mouth of a river from which they have been displaced, is the most important, with 80 per cent of the Seri

[92 cont.]

156 They are principally the result of influences that act dur-
854 ing the first years of life: constant contact of the skin with that
155 of adults; immobilization of the extremities by cloth wrappings; provision of a permanent support in the form of a cradle to which the child is fastened; constant attention to his alimentary needs, and continuous supervision of his actions.

155 "Give me bread," "give me coffee," "you have food, I
156 am hungry," "why do you keep food?" "that's the way things are," etc., are very common expressions that manifest the Seri personality.

000 On the other hand, from the practical point of view (2),

226
● 439 3. For the present fishing promoters, the Seri personality is a serious obstacle: because of the wealth of marine fauna, the competent Seri obtain a good catch in a few hours, and their earnings permit them to live several days, which would be multiplied if the yori would not resort to the sale
[276] of marijuana at excessive prices to obligate them to work.

it has to be greatly altered, above all in so far as it influences the personality, in order to raise the Seri standard of living, changing their habits, ideas, and values.

7: Marroquin E-5 (1955) 1957 NU31 Seri NU31

with this problem is the lack of legal title to the lands which the Seris own in fact but which legally belong to the nation.

Insofar as the economic problem, it is necessary to better the fishing techniques, doing away with old process of obtaining the catch through dynamite explosions. Finally, as Dr. Marroquin says, the fact should be noted that the Seris on passing from the nomadic economy to exchange economy lack the necessary knowledge to achieve success in their operations within the national and international market.

It is thus necessary to take care of these and other problems, to save this Indian group from complete extinction, succeeding on the other hand in raising their living conditions, making of them citizens capable of contributing to the progress of the State of Sonora and the Republic of Mexico as a whole.

NEW DIRECTOR OF THE SUMMER INSTITUTE OF LINGUISTICS IN MEXICO

For the next two years the Director of the Summer Institute of Linguistics in Mexico will be Dr. Benjamin Elson. Dr. Elson first came to Mexico in 1942 and began linguistic field work among the Sierra Popoluca Indians of the State of Veracruz. Sierra Popoluca has been the principal object of his linguistic studies since that time, and various articles have resulted from these researches. He took his degree from Cornell University with the thesis "Sierra Popoluca Morphology". He has on other occasions served as Associate Director of the Institute in Mexico.

The Associate Director will be Mr. H. J. Klassen. Mr. Klassen has done linguistic field work on Lowland Mixteco in the State of Oaxaca. He has served as Interim Director of the Institute on previous occasions.

VII ROUND TABLE OF ANTHROPOLOGY HELD IN THE CITY OF OAXACA FROM SEPTEMBER 1ST. TO 7TH.

During the month of September, the VII Round Table of Anthropology, dedicated to the study of the Indian cultures of Oaxaca, was held in the city of Oaxaca, capital of the state of the same name. Since at the present time there exists in this state a large proportion of Indians, and since during its pre-Hispanic past such important cultures as the Zapotec and Mixtec flourished there, the interest of this Round Table is evident.

Lack of space makes it impossible to present here a complete report of this anthropological meeting; therefore, we will limit our coverage to a summary of the most important points, taken from the Report of the recording secretary, Prof. Wigberto Jiménez Moreno. This report was made available to us through the kindness of Mrs. Carmen Cook de Leonard, Vice-President of the Center of Anthropological Investigations of Mexico. The complete version in English may be seen in the *Boletín* of the Center of Anthropological Investigations (Nº 1, Oct., 1957, pp. 43-49).

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

McGee (1898:214)

estimated that maritime resources provided two-thirds of the Seri diet. Kroeber (1931: 20), approximately 30 years later, estimated the proportion at about three-fifths. In the winter of 1960, 30 years after Kroeber's visit, the Seri were obtaining at least three-fifths of their food from the sea.

In pursuit of their main source of subsistence, the Seri travel up and down the narrow coastal band. In the winter of 1960 they were occupying one temporary camp toward the southern end of the band and a permanent camp at the northern extreme. Seri women and children gather mollusks; fishing is a male occupation. In addition to gathering and fishing for their own needs, the Seri dispose of a portion of their catch on the commercial market. This enterprise began about 1930, and was encouraged by the establishment, in 1958, of the Sociedad Cooperative de Produccion Pesquera Seri with the cooperation of the Mexican government.

The Pacific green turtle constitutes the largest single item in the Seri diet for at least six months of the year—from January to June—and it is also caught occasionally at other seasons. In 1896 McGee estimated that it provided 25 per cent of the total food supply. Emphasizing the intimate ecological relationship between the Seri and the turtle, McGee (1898: 186-187) wrote:

> ... perhaps half of the aggregate life of the tribe is spent within easy reach of its [the turtle's] feeding and breeding grounds, and tribesman and turtle have entered into an inimical communality something like that of the Siouan Indian and buffalo in olden time. ...

Kroeber (1931: 20) believed that McGee stressed the Seri-turtle relationship too strongly and overestimated its contribution to the diet. McGee (1898: 187), in support of the importance of the turtle to the Seri, points to the fact that the turtle carapace is used for, among other things, a house covering and buckler, a cradle, a coffin, and footgear. The carapace is currently used for supporting and roofing houses and as a starvation food. The contribution of the turtle to the diet varies from year to year, but observations made in 1960 suggest a range of from 15 to 20 per cent as a reasonable estimate.

Seri men fish for turtle from boats, which are manned by two or three men and are propelled by oars, sails, outboard engines, or any combination of the three. The boats operate either individually or in groups. The men fish by night or day, depending on the weather and sea conditions. When they fish at night, they use a kerosene lamp to attract turtles to the surface. The principal implement is the harpoon.

The harpoon tackle of the Seri is illustrated in Figure 1. It consists of a foreshaft (c-h), a mainshaft (j-k), and an extension cord (i). The component parts of the foreshaft are a projectile point (c), a gasket (d), a wrapping cord (f), a hafting base (g), and a lead cord (e and h). In preparation for turtle fishing, the hafting base (g) is plugged into the socket (j) on the main shaft (k), and the extension cord (i) is looped through the lead cord (h).

225 In fishing for turtle, one man stands at the bow of the boat, holding the mainshaft and extension cord in one hand. When he sights a turtle, he propels the mainshaft at the animal's carapace, retaining a firm grip on the mainshaft and the extension cord. If it is struck, the turtle lurches away, loosening the foreshaft and unplugging it from the mainshaft. Tired eventually by the tension [411] applied by the fisherman on the extension cord, the turtle is finally stunned by a wooden club and lifted into the boat.

225 There is evidence that the turtle-fishing complex has consider-175 able time depth and stability. The Seri were using similar apparatus and methods at least as early as 1825 (Hardy 1829: 296-297). At [501] this time they employed balsa boats rather than wooden boats with outboard motors and torches of cactus fibers instead of kerosene lamps. The complex continued, apparently with little change, through 1896 (McGee 1898: 187-193). Wooden boats and kerosene [177] lamps began to be adopted during the 1920s, and outboard motors were introduced in the 1940s.

411 During the entire period of 135 years (1825-1960), however, the harpoon tackle underwent only one important innovation. The 225 gasket on the foreshaft was introduced by a Seri Indian about the 176 year 1935. The addition of the gasket was related to, and coincided ●[439] in time with, the first attempts of the Seri to supply turtles to the commercial market. When they caught turtles solely for their own use, they did not need to keep the animals alive for very long, but when they began to sell them it became important to preserve them alive until they reached the market. The gasket acts like the hilt on a sword, preventing the entrance of the foreshaft hafting into the turtle's body. Through its contact with the carapace, it restricts the rotation of the point within the animal's body and provides a seal which inhibits the loss of blood, and thus prevents early death. After the turtle is stunned with a club and lifted into the boat, the foreshaft is removed and the hole which it made is stuffed with a piece of cloth.

124 Seri men were shown a harpoon foreshaft from a museum archive and asked what it was for and whether they themselves made similar 411 ones. If an informant acknowledged that he made them, he was asked, at the minimum, to detail the materials he used, the procedures he followed, and the approximate amount of time it would take him to produce one. Later he was requested to show the field worker examples of the foreshafts he had made. Of the approximately 40 adult Seri males, about 25 were available for questioning. Of these, approximately ten did not make foreshafts or had made them in the [474] past but did so no longer; they were mainly older men and those [887] engaged in the administration of the Sociedad Cooperative de Producción Pesquera Seri. Five men either would not or could not volunteer information. Data were obtained from the remaining ten adult men and from one eight-year-old boy; they include 21 foreshafts made by these eleven people.

411 The materials from which a foreshaft can be shaped and as-325 sembled vary within what is available in the Seri environment. Iron

262 178 I have no idea, of course, what the diet may have been in the past since only archaeology can suggest the answer. But I am sure that there has been much change in their diet since Kroeber saw them, not in the basic pattern but in the composition. With the introduction of hook and line [177] fishing, the percentages swung in favor of fish, [226] while decimation of the marine turtle cut down the importance of this animal. Simultaneously, 262 the Seris now have available manufactured or [177] imported Mexican food items: flour, sugar, rice, [439] potato (when no one is looking; potatoes are not supposed to be sold to them because they make *tepache* from them which makes them grossly fish in cans, coffee and tea. Dependence on the products of the desert has dwindled. Rattlesnakes, desert turtles and chuckawalla still find their way to the Seri kitchen but not too frequently. Pelican and sea gull will be eaten only when rough times beset them but are disdainfully refused at other times. My own estimates, impressions not supported by any attempt to measure their diet, are as follows:

fish	50+%
turtle	8-
Mexican import	20
desert plant	7
desert land animals incl. stock	5
shellfish	10
total marine origin	68+
total desert origin	12
imported origin	20

224 178 [685] Another important change in the pattern is the unquestionable decrease of hunting (other than marine animals) in Seri life, as of the domestic stock stealing, the place of which has been taken in a way by the dependence on manufactured foods and items. Hunting nowadays is done rarely and only few individuals will devote some months out of the year to it. Stealing of domestic stock [685] has ceased for practical purposes, since in the past it lead to virtual extermination of these Indians. Occasionally the Seri kill off a semi-wild burro, herds of which run about loose in the desert or they'll get leavings off one, hunted down by a Mexican trader or fishermen.

411 224 [857] The Seris' basic tools of game procurement have changed. Bow and arrow were still much in evidence and in use in McGee's time but seem to have gone out soon after. Kroeber did not mention them and by now they are quite extinct, except as clumsy toys little boys use to play with. The throwing stick is still used on rabbits—any stick one can scrounge on a moment's notice will do for the purpose. If any traps or falls had been used we do not know of them. Accidental stones may be used much in the same way as throwing sticks. In general, various sorts of fire arms, mostly .22 and .38 [177] caliber are owned by a good many Seri men and have replaced other weapons in the terrestrial hunt.

226 411 177 More important are changes in the fishing procedures. Formerly spear and detachable harpoon were their only marine weapons. Even as late as 1930, during Kroeber's visit, the Seris made no use of hook and line. But now, hook and line of

[P. 7A]

[apparently a line of type has been omitted here-Analyst]

226 411 177 commercial origin are their main instruments of fishing. To this they added dynamite, sometimes with disastrous results to themselves, mostly as a way of securing bait. Single-pointed fish-spears which loomed so importantly in McGee's account have gone the way of the Dodo for its original purpose and transformed into iron bar lances, now used largely as weapons against rattlesnakes that men encounter in their desert roamings. However, in the forties, when the Seris spent a great deal of time getting sharks and huge rays, they killed them with these weapons.

226 411 What retain some importance are the harpoon and the two-pronged spear called "puiero." The two-pronged spear is one of their oldest weapons. The construction is much the same as when McGee visited them. The spear is used mainly to stab large-size fish, the giant *bais* or *mero* for example, after it has been brought up on the line. The [225] harpoon is now exclusively a weapon for the turtle hunt.

226 177 [157] An interesting fate met an effort to teach these Indians net fishing in 1947. They tried, ruined the nets and never took it up since. The instigators were Mexicans, the fish traders. I suspect that Seri individualism had a great deal to do with their lack of interest in net fishing which after all demands a certain amount of cooperation. With the hook and line fishing, men can have much more their own way.

501 177 648 An added "tool" of the Seris is the plank boat. The balsa which McGee still observed during his visit, had already vanished by the time Kroeber came to the Seriland and had been replaced by these boats. The boats are flat bottomed but good sized. The material was provided by the Mexican government. Boats are usually propelled by 5 hp. motors leased from the Mexicans (no Seri is rich enough to purchase [439] one) who also sell them gasoline and oil at exorbitant prices and in return buy Seris' catch of fish and sea turtle for low prices. At the time of my visits these amounted roughly to less than a peso [435] per kilo of the flayed, degutted and cleaned fish (less than 8 cents) with fluctuation up and down the scale depending on the kind of the fish, and to about 30-50 pesos for medium to large size "cahuama," the live marine turtle.

501 648 The Seri boats are also propelled by paddles and sail—this is always the case with the families who wish to stay away on Tiburon for some time. The Mexicans will not lease them their motors for such trips even if the Seri, some of them at least, have enough knowledge of the motors to repair minor stoppages—a demonstration of the fallacy [114] of McGee's idea that they are genetically unable to handle tools. In this respect, Kroeber's (1930: 25) estimate of them is closer to the truth.

462 Sexual division of labor in procuring food goes on, much the same as it had 70 and 30 years ago, with the sole exception of the imported goods. [439] Here purchases are made either by men or women or by children, depending on who at the time has the cash and what one wishes to buy.

Fishing is still done by men and so is hunting. Women still concentrate on gathering, whether of

[P.7B]

237 On the other hand, the hides of all of these three animals had been traded off to the Mexicans, [439] but this again was now discarded. This would [182] merely indicate the fluctuation of collapse of the demand from the outside rather than any intrinsic change in the Seri values.

Incidental use of the horns of the bighorn had been denied by all of the younger informants although admitted by Miguel Barnett. However, as I observed, the horns of this sheep are sometimes [415] used as drinking cups. Several of them were [181] lying around in the usual disorderly way of the Seris, now and then picked up for drinking and then again discarded. But the use of them struck me as most casual.

224 *Hunting:* Hunting takes a variety of forms 411 and includes a variety of weapons, from .22 caliber and .30 .30 caliber rifles to spear, stone and throwing stick. Bighorn and deer are followed on foot but without dogs, probably because without dogs they may be easier to surprise. This hunt takes place in daytime. But the peccary is hunted [231] with both the spear and the rifle and with a pack [885] of dogs, and only by the adult men. There is an emphasis on the "adult," this surely owing to the certain amount of danger connected with the chase of the peccaries. The weapons of the chase dwindle to the throwing stick or a stone when it comes to the jackrabbit. Badgers, I was told, are also killed with the same weapons. But formerly, the informants said, bow and arrow was much instrumental in hunting the smaller beasts.

* 825 Other animals, according to the Seris, are not [224] hunted now, nor had they been in the past. Justification for this ranged from the usual "because it isn't done" to the more specific reasons. The skunk is "neither hunted nor eaten because it [225] stinks." The whale is considered "too big to kill" while the killer whale is "too fierce." The harmless *tonita* (dolphin)' was reported somewhat hazily as "sometimes killed" but the comments were inconclusive and were denied by other informants.

[224] Two other species had been reported as hunted in the past but not at the present time. The Ringtail cat was supposedly hunted with the slings [225] while the sea lion was hunted down "with a rifle or rock but not with the harpoon because of its great strength, it would break the harpoon." This, however, was "perhaps 25 years ago." Why the sea lion is no longer pursued is uncertain, unless there is again a lack of demand from the outside while the Serian economy is so much centered on fishing.

231 *Pets:* How many species of animals are kept as pets on and off is difficult to say. Like most hunting and gathering groups the Seris are fond of pets but their interest in them depends entirely on an accidental capture. Among the wild mammals of the region there are few that could be captured and tamed easily. The badger which I mentioned already was the only mammal I saw

[237] [352] 'I have seen bones of beached whales used for stools and also the skull of the *tonita* used as a chair. But it must be remembered that these animals got stranded on the beach. They were not deliberately hunted down.

[P. 10 B]

½ [Lie - deer, bighorn and peccary - Analyst]

262 pelicans are not; they are regarded as "bad food," unfit for eating. No further explanation has been offered here and it might be that the same sort of prejudice works here as in the case of the adult birds. Otherwise, reasons for rejecting eggs for food are probably a matter of mere customary attitude without any particular rationalization. In a few instances, the dove being one example, the eggs were said to have been rejected because they were "too small to bother."

237 Other economic uses made of the birds are ex-
291 tremely few. At one time, the pelican skins were used for clothing and, in fact, in McGee's time they represented, perhaps, the most important item of clothing for the Seris, having been worn in shape of wrap-around robes, usually covering the lower part of the body. Moreno reported these robes as still in use "30 years ago or more," in the early twenties, but in Kroeber's time these
[177] robes were already discarded in favor of the European garment. The Seri, nevertheless, still pre-
• [439] serve skins of these birds—the white pelican, larger of the two, always had been favored here—and occasionally sell them to the visitors. Another
237 use made of the feather is in the arrows. The
411 cormorants, heron and the owls had been especially mentioned in this connection. But it is certain that they were not the only birds so exploited and also that this particular use went out of business along with the disappearance of the bow and arrow as the principal weapons. The use of feather for arrows may well continue into the present in a somewhat degraded form. The Seri boys play a
[857] great deal with bows and arrows, shooting them at any moving available target. They'll pick up any available feathers.

Pets

231 Somewhat desultory use is made of birds as pets. During my visit I have seen doves and an egret kept in houses as pets by the adults and fed quite frequently. The number and variety of birds which may become pets in households may well
* 825 be larger. Pelicans and sea-gulls are less fortun-
857 ate. They are often shot at and over-powered by the boys. But instead of taking them to the households, the boys stage games, shooting them at point blank from bows and arrows and pea- shooters. These somewhat bloody executions take place almost every day. The pattern is the same. Only the subject of the game changes, depending on the available species of bird or animal.

Hunting

223 It is hard to speak of hunting in connection with birds, because there is so little effort made to go out and get them. The main exception is the duck and this, as I already mentioned, is hunted on Isla Patos and clobbered at night with sticks and stones in great numbers. This is one of the few instances in which the Seris will go out of their way to get a bird. Sea-gulls and cormorants and, more rarely, pelicans are dispatched by pea-
[411] shooter (stone), sticks, small clubs and, on occasion, with a shot from a .22 caliber rifle.

[P-18A]

Spalkin E-5 (1953-1955)1962 NU31 Seri NU31

262 tions to San Esteban or San Lorenzo. The turtles now are as much a food as a "cash crop." While [225] the Seris are camped at Desemboque, most of the turtle catch is sold alive to the Mexican fish trad- [439] ers who are headquartered in Nogales and Hermosillo and take the catch along with the fishes to the markets in these towns and sometimes even as far as Phoenix and Tucson.

Of the remainder, the most frequent items that show up on the Seri table are probably the rattlesnakes and the desert tortoises. The rattlers are eaten with relish—only the heads and the tails are discarded as poisonous. The larger chuckawalla is considered a particular delicacy but is rarely caught because it lives in a somewhat distant region. The remainder of the animals listed as "eaten" are collected only incidentially.

It is probable that very few species are really left alone and not taken as food at various times, especially when famine distress overruns the camp. As far as I could determine, only three species are rejected as altogether unfit to eat: the gecko, the night lizard and the toad. All three are believed to be highly toxic "in flesh and blood" although real harm could be caused only by the toad. Besides, the two lizards are really tiny creatures and would make little difference when a survival is at stake.

825 Few reptilians are ever used as anything but food. The sea turtles in a way are at certain times, [439] that is, when they are sold for hard cash to the Mexican traders, whether live or sliced and salted. 237 The only other creature I ever heard about as being used for anything at all was the coral snake. At least one informant suggested that in the past its hide has been used for hat decoration. But coral snakes are scarce and this again could be only incidental. It may be that the rattlesnake hide, especially of the large specimens of the western [439] diamondback, is sold occasionally to a passing visitor but this again is a rare occurance.

Food Preparation

252 Food preparation of the majority of animals in this group is no different than of most other ani- [263] mals. They are simply skinned, tossed into a pot of boiling water and cooked, occasionally with salt as the only ingredient. Larger individuals, notably turtles, will be quartered and then boiled or roasted on a grill. The chuckawalla and the desert tortoise are said to be fried, but whether this is the usual procedure I can't say, because only a few of them had been brought into camp in my presence. The tail of the Gila monster supposedly had been fried in oil "in the past."

Food Preferences and Taboos

262 It is obvious that some creatures in this group are considered better food than others. The chuckawalla is especially favored. When several were brought in from San Esteban, I couldn't persuade the owners to part with them, although I offered a huge price (for local conditions). The captors took

*Another use in the past—snake-skin belt worn. It is illustrated by McGee (1898.170, Fig. 7).

[291]

[P. 23A]

*825 innumerable times at close quarters. The only exception was the loggerhead turtle. The size of this giant reptile had been given at the maximum as five meters and it is a gross exaggeration. But here again the factor of frequency of sightings enters into the picture. As pointed out earlier, this turtle became quite scarce in the upper part of the Gulf, so much so that it became a legend among the Seri.

Less astute are they in the estimates of the hypothetical weight of an animal and where detailed responses were given, it was almost invariably for a well-known and economically important species. In fact, I can find answers only for the marine turtles (all three), the tortoise and the chuckawalla. These five are the largest reptiles in the Seri environment. Chuckawalla's weight had been given with only slight exaggeration but, for some reason, all three species of marine turtles were subject of exaggeration and the giant loggerhead more so than the two smaller fellows. This is more surprising considering that the Seri do weigh these animals while selling them to the Mexican traders. [439]

Development

The Seri consider the majority of the reptiles oviparous. But there are exceptions. The sidewinder, the toad and the horned toad, they think, are viviparous. This, of course, is true of the sidewinder which carries well developed young before birth. But it is not of the other two. Why the numerous *Phrynosoma* should be considered viviparous is not clear. It is true that some of the species of horned toads give birth to live progeny. But the species in question happens to be oviparous. As for the toad, here the Seris say "it has no eggs and young are born alive." They must proceed from an argument that they've never seen toads' eggs, which is easy to understand. Open permanent waters are almost non-existent in their country and the toads' eggs, inconspicuous as they are, may remain unnoticed. Since no eggs were seen, the logical conclusion for them is to believe that the animal must be born alive.

Outside these four there are four other questionable species. For the Gila monster and the spotted race runner, the informants couldn't tell whether the animal came out of eggs or was born alive, and for the leopard lizard and the fence lizard, there were conflicting reports. The data suggests that the dubious cases are usually small or little known and rare lizards. The exception is the *Phrynosoma*. But *Phrynosoma* is somewhat atypical in this context. The Seris believe that it does not represent the final stage of an animal but that it does develop into some other kind of creature, though I had been unable to find out just what it was. It was also indicated that *Phrynosoma* is not a lizard but a creature of its own kind.

For the majority of species the numbers of delivered eggs had been given as 1-6 with 4-6 being the most frequent figure which actually does correspond to the natural situation. But some species are considered to be more prolific. The tor-

[P 258]

DrMalkin E-5 (1963-1965)1982 MU31 Seri MU31

226 177 [411] [225] and, from all accounts, also from the Japanese whose trawlers worked in the Gulf in the late 1930's. Today, hook and line fishing from plank boats almost completely replaces earlier methods, the spear (gueiro) and the harpoon (barilla). Harpooning is still done in hunting marine turtles while spears are occasionally used on larger groupers and also on sharks and mantas. Harpoons were also used in connection with the latter. But since World War II the shark fishing has declined, owing to the development of synthetic vitamins and abandonment of sharks and mantas' liver oil as a source of vitamins. In these operations, the Seris were for a while involved to a considerable extent. But now they have completely switched to commercial fishing which supplies not only food but also ready-made cash from [439] the Mexican traders, and with it the Seris can purchase luxuries of life in the Mexican *tienda*.

262 Altogether, out of 42 species listed here, the Seris reported taking for food 20 species which are as follows:

Malacoctenus zonifer
Firella simplicidens
Anisotremus davidsoni
Paralabrax maculofasciatus
Lythrulon flaviguttatus
Mugil sp.
Cynoscion parvipinnis
Anchovia macrolepidota
Bairdiella icistius
Stereolepis gigas
Mycteroperca jordani
Cynoscior macdonaldi
Epinephelus analogus
???? (Pescara)
Trachinotus paitensis
Verrunculus polylepsis
Gymnothorax castaneus
Hypsoblennis gentilis ricketti
Abudefduf saxatilis

The most important of these are the groupers, the *baya, pinto, totuava* and *mero*—the latter a giant fish often in excess of 150 kg. and nearly three meters long. The most important of these is the *baya*, a medium size fish taken daily in varying amounts. I suspect that this fish accounts for [226] more than half or maybe even 2/3 of the total Seri catch, weight-wise. Of others, none is of any importance except seasonally.

* 825 Another sort of use is made of the sharks and mantas in connection with the already mentioned exploitation for liver. Five species of sharks and the horned manta were listed by the Seris, with *chata, gato* and *composo* most frequent and perhaps most important.

Trading, as already mentioned, is of considerable importance to the Seris. Some fish are eaten only occasionally, but they may be traded off to [439] the Mexicans.

262 Not all fish are eaten. In most cases no particular explanation had been offered for the rejection. But, in some, specific reasons were mentioned. The *Scorpaena sonorae* and *Cetengraulis mysticetus* are so rejected because they "are too bony to eat." *Gillichthys seta* are considered unfit to eat because of its tiny size while *Sphoeroides annulatus* is refused because of its supposed toxicity, of which more later. Finally, the sharks are not eat-

262 en simply because their flesh is disliked and unfit for human consumption. But it may also well be that some of them, especially of the giant variety, are not eaten simply because they are far too large to tackle and the Seris fear hunting them.

The Seris indicated also in some cases that larger specimens of fishes are eaten when they reach the size which would justify the effort. This is true of *Malacoctenus zonifer* which they indicated is "eaten when large," that is when at least 10 cm. long.

[226] Although only sometimes did the Seris specifically indicate that certain fishes are used for bait, it is very likely that almost all small or lesser fishes are so used.

262 178 In some cases the Indians indicated changes in preference for given fishes, with the time. For unexplained reason *Gymnothorax castaneus*, the morene, has been claimed to have been eaten in the past but not for the last 11 years. It isn't clear why the figure of 11 had been used and why suddenly in the early 40's they should stop eating it while the Mexican drool over it. But it may be also that here we have merely personal preference of the informants, as so often happens. As for the *pescara* it was formerly taken for food but now it is merely sold to the Mexicans. This practice is increasing also to include the immense *mero*, even larger than the *pescara*. The fish is mainly sold but rarely eaten by the Seris themselves.

[439]

Food Preparation and Preferences

252 Food preparation is simple and in the main differs not at all from the preparation of other animal diet. The fish are either boiled whole or in part or else are roasted over slow fire on a grill. The entrails are usually discarded, but otherwise the beasts are eaten entire, eyes, brains and the rest, while the tiny fishlets are eaten complete with the scales and guts.

262 As for the preferences, as expected, there are some fishes that the Seri like better than others. The *bana* in the first place and the *pinto* in the second lead the list. The Seri prefer them to all others and consider them a real delicacy. On the other hand, there are some fishes that they'll eat only under protest, meaning when times are hard. *Girella simplicidens* is one such creature. The *Puercos* or *Cochi* is another. I have seen boat loads of puercos brought in with the other fish and unceremoniously dumped out on the beach to the dogs. Literally! The Seris took to this fish only when fishing was poor during the wintry days when they were held ashore by the weather. Even then, they tried to eat the despised creatures on the sly, avoiding being seen doing this, and when I or the Mexicans picked up fresh fish from the beach to take home they laughed saying that we acted as a *cochi* (pig) would!

[231]

[183]

Other Economic Uses

* 825 237 322 One use made of fish concerns two species of sharks, the *chato* and *camposo*. Here, the informants claimed, the oil from their liver had been used in earlier times for polishing wood. This is

[P. 32B]

9:Malkin E-5 (1953-1955)1962 NU31 Seri NU31

quite possible but I couldn't substantiate the story from contemporary evidence. Perhaps during the height of the shark hunting for the liver oil, the Seris used the oil also for wood polish, although it isn't very clear just what sort of artifact they make would require such treatment. The wooden tools or artifacts among them are in short supply at all times. Finally, the huge horned manta was supposedly hunted also for its hide but just in what circumstances it was not explained. It is the only fish which the Seri ever mentioned as having been put to such use.

Fishing

As already mentioned, fishing nowadays is largely accompanied from flat-bottomed boats with hook and line. The old ways of getting fish by spearing are almost gone for good. Recently, an attempt has been made to teach the Seris siene fishing, but 10 years of these endeavors accomplished only ruination of a number of expensive nets and of much fishing gear and the desertion of the project by the Indians. It may be that their individualistic and almost anarchistic attitudes preclude cooperation, essential in this type of fishing.

The bait is obtained in any one of the three ways: by dynamiting fish in tide pools or along the shore, or by catching small fry with small hook and line, or finally by collecting small fishlets in the tide pools, prying them out from under rocks or simply—and here the Seri boys excel—by shooting them in the tide pools with tiny toy arrows or simply spearing them with a stick. The dynamiting is done with the purchased sticks of dynamite which the Seris obtain in the tiendas. The procedure is often risky and down right dangerous. Some of the Seris have blown themselves up with dynamite. I have seen one of them, who lost both arms and had a jaw broken during a dynamiting trial. He went about with a dirty rag tied up over his head to support the wrecked jaw-bone. He was carried off by measles two years later in the 1955 epidemic.

The Seris' commercial fishing is pretty much controlled and exploited by the two or three Mexican fish traders from Nogales and Hermosillo. These have their tiendas in Desemboque, which at set price sell things to the villagers. They also provide the Indians with the five horse-power motors for fishing trips and pleasure cruises and with the oil and gasoline essential to run these—also at set price. They finally purchase the fish—at a set price—and from the proceeds the Seris purchase goods at the tiendas, completing the cycle. Not all Seris are compelled to work for the Mexicans, and, in fact, they do not always do so. Some families stay away from Desemboque and depend on the sail and oars for propulsion. They come to the village only once every few months to obtain supplies. Even when in the village, the Seris make little effort to fish for more than they wish to get in order to satisfy their immediate needs.

Fishing expeditions usually take place in the morning. Most Seris will set off before daybreak and will return with the catch by 11 a.m. or noon.

[P. 33 A]

BrMalkin E-5 (1963-1965)1962 MU31 Seri MU31

MOLLUSCA

VII

USES

Species	Food Prsn.	Food Past	Decoration Prsn.	Decoration Past	Trade Prsn.	Trade Past	Bait
Octopus bimaculatus	x	x				x	x
Cadakia distinguenda		x					
Laviocardium elatum		x			x[1]		
Carditamera affinis	x	x					
Acmaea dalliana			x	x	x		
Crucibulum spinosum		x	x	x	x		
Chione undatella	x	x					
Chione californiensis	x	x					
Pteria peruviana	x	?	x	?	x		
Volsella capax	x	x					
Olivella dama			x	x	x		
Cyprea annettae				x[2]			
Tegula rugosa		x		x		x	
Conus regularis		x[3]		x	x	?	
Phyllonotus erythrostomus		x				x	
Turritella bradcifiana		x[3]			x	?	
Polinices reclusiana	x	x					
Chlamys subdudosa	x	?					
Atrina maura	x	?			x[4]		
Navicula pacifica		x					
Turbo fluctuosa	x	?			x		
Solenosteira pallida			x	?	x		
Ceritium stercusmuscarum			x				
Trivia radiana			x				
Ficus ventricosus	x						
Niocke bistrinoca	x	x					

[1]Occasionally used as dip spoon

[2]Supposedly used in the past for money

[3]In the past "giants of 300-400 maybe years ago have eaten it."

[4]Only pearls

These figures show then 26 out of 37 species exploited economically in some way, that is 70%. These figures show increase over the figures I have published previously (1956) which were 21 out of 36 species and 58% respectively. The corrected figures are the result of brief additional field work in 1955.

Food

A good part of the molluscan forms are used as food. Altogether 19 species are listed as such, although out of these, only 11 were reported as being part of the diet today while the remainder only in the past. It is obvious that there has been progressive decrease in the Seris' dependence on the molluscan diet within the past few generations.

Four of the species reported as part of the Seri diet at various times had been collected from the kitchen-middens. There are: *Pteria peruviana*, *Chlamys subdudosa*, *Volsella capax*, and *Navicula pacifica*. Of these four, *Navicula* has been reported as eaten in the past "maybe 100 years ago, but not

[P 38 B]

301 + 825 worn. I have observed women wearing necklaces of the former and women and very young boys of the latter. The olive shell, incidentally, is made into two sorts, the natural, unroasted shells which retain a greenish-purple, mottled color and the white. The white pallid color is achieved by roasting the shells over fire. The necklaces are mostly made up of either colored or white but occasionally they may be made of mixed shells and then they are usually alternately interlaced, now with one, now with another.

+ 825 b) *Utensils:* Two species had been reported used as occasional drinking or dipping cups and spoons. *Lavicardium elatum* and *Ficus ventricosus*. *Ficus* is presently discarded, but the *Lavicardium* is still occasionally used so. There is no doubt that the incidental use of these shells increases during longer fishing expeditions when the Seris are apt to lose some of their gear. [412] [415]

[436] c) *Money:* Interestingly, the brown cowry was supposed to have been used as a means of exchange, as money—in the past. If this is so, then the selection of this shell for such purpose is not surprising considering its widespread use throughout the world. [171]

439 + 825 d) *Trade:* Altogether 12 species had been reported as traded off either in the past or present. The trade importance of various species of shells varies with the demand of the market and sometimes may be only sporadic and short-lived. Only a few of the species had been indicated as having been of any trade importance in the past, and it may well be that the Seris did not register the species which may have been briefly sold to and outsiders during the short-lived fads of demand. It may be said in general that the trade importance of the shells increases and that greater variety of them are exploited now than formerly. This is surely owing to the increasing accessibility of the Seri country and the increasing tourism, not only visitors from Hermosillo, but also from such far flung places as Tucson, Phoenix and even Los Angeles. [177]

In some instances, the Seris had no idea what the shells were sold for. The augur shell is on and off sold to some American traders who show up in Desemboque once in a while and for whom the Seri women accumulate these shells. But what uses were made of these, the Indians surely didn't know. Neither did they know what uses were made of the *Murex* shell and the *Turbo*, both of which were periodically sold in bulk to Hermosillo. On the other hand, they had some idea what uses were made of some other shells. *Pteria* and *Atrina* contain pearls and these are much desired. Especially the pearls of *Atrina* which are sold to the Mexicans or to the visitors for 25-50 pesos each and therefore have immense value, for the local market. The *Pteria* shells are said to be used for button making, and the Seris themselves claim that they make buttons of this shell. The most important of all, however, at least at the time of my visits in 1953 and 1955, was the olive shell. It was easily the most commonly and most numerously collected shell of all that the Seris ever collected. Owing to the scarcity of it in Desembo- [435] [237] [226]

*825 439 [226] [415] [435] que (as a result of the ecology of the coastal waters) it is gathered in huge quantities largely on the shores of Tiburon where it is said to occur in great numbers. This animal is gathered in large bulk in 5 gallon gasoline cans and then sold either as finished necklaces at the rate of five pesos each, or as bulk, by the liters, with 20 liters for each gasoline can. There is a steady market for these shells.

226 e) *Bait:* Only the octopus has been reported as used for fish bait for the *pinta*, *baya* and *pescara*, and I have seen it used in that manner. But it is certain that on occasion the Seri will use also for bait the flesh of some of the shelled smaller molluscs, especially when they wish to capture live fishlets for bait.

Hunting

[462] [857] Collecting of molluscs is almost invariably a job of adult women and of the children of both sexes who at low tides scavenge the exposed mud flats and gather or dig out various marine animals. Some are collected on the surface only. Among those that must be excavated are the octopus and *Niocke* which hide in burrows or mud, respectively. A large shell is usually used as a tool to pry the *Niocke* out.

Taxonomy

*825 Molluscs on the whole are recognized as one group of animals. However, this does not include the octopus and the chitons which are considered as different sort of creatures. Some sort of feeble association between the *Pelecypods* and the *Gastropods* is recognized and various species of both are placed together. I noticed a tendency to consider some of the *Gastropods*, the limpets and *Crepidula* for example, as supposedly having two valves while in fact they are both univalves. The explanation offered for this was "it lost one side," meaning one valve.

Although *Chitons* spend most of their time motionless attached to rocks they are both considered animals. The motions of these animals may not [857] have been observed by the adult, but the Indians, young boys especially, certainly noticed the changed positions after a period of time.

In some instances the Seris observed quite small differences between animals—recognizing them as different species. In the *Neritina* two different forms were correctly identified as representative of the same species, although they differed considerably in size and color. On the other hand *Columbella* and *Solenostira* had been given the same Seri name palémex[8] but were recognized as different kinds of animals.

Sexing

A distinct tendency to consider the molluscan males larger than the females emerges readily from the Seri answers. This can be shown in the table below:

[P. 40 A]

XI

SUMMARY

* 825 [114] In 1956 (Malkin 1956:74) I published tables indicating the degree of economic exploitation of the animal world by the Seris. These tables were incomplete and also need corrections. Therefore below I am reproducing the revised version.

Class	Species Reported	Species Exploited	Percentage
Mammalia	21	9	40
Birds	24	6	25
Reptiles and Amphibia	25	17	68
Fishes	44	23	52
Molluscs	37	27	70
Crustacea	10	2	20
Insects	92	—	—
Miscellaneous	9	—	—
Totals	262	82	30

These figures show as yet remarkable degree of exploitation of the products of the sea and also of the reptiles with correspondingly lesser interest in the terrestrial animals in general. Of course, mere listing of animals does not tell the whole story. In the first place, it does not indicate the changes that took place nor does it suggest the relative importance of any group or species. Historically, the situation is different now. Out of nine species of mammals reported as eaten only six still figure out in the diet. The reduction is even more striking in birds where only three are admittedly eaten and two of these only furtively. More yet, only 12 species of marine molluscs out of 27 are eaten while the rest get discarded. All this is tied up then with the changes in the economy, with the importation and increase of the trade foods and goods and also with increasing preoccupation with the commercial fishing at the expense of hunting and gathering.

262 177

262 Individually, by far the most important in the Seri diet and economy are the fishes with half a dozen large commercially lucrative species leading the list. Next come the marine turtles and following these for the third place tie the molluscs, the mammals (lagomorphs, bighorn and peccary) and probably the rest of the reptiles of which the rattlers are probably most important by volume. Insects do not figure any longer in the Seri economy in any way, although at one time they probably had some significance. On the other hand, while the food importance of the molluscs decreased immensely, their trade importance is on the upswing owing to the demand from the outside. Thus the basic changes in the Seri patterns of exploitation of animals has been a result largely of an outside stimulus.

[439] [177]

Fishing and Hunting

226 185 Fishing is practiced mostly to satisfy the immediate needs, of petty cash and food. Once these are satisfied, there is no incentive to fish until the need arises again.

[P. 54 A]

123 We have given the Seris so much we are now short ourselves. Variety is very restricted. We haven't enough tin dishes or tools to go around, but that does not trouble us at all. All the cleaning is done in salt water and sand. Fresh water is only used to drink. Nothing else. We can't even take a shave. Not a drop of water. We are very lax in our personal toilets and appearance. We are barefooted always in the boat, as we have to wade to get the boat in deep water, and often the waves slosh on board.

This boat is made of a hollowed log twenty feet long and three feet, three inches wide, and she is very cranky. She almost upset with us several times. When everybody is placed in it, it is difficult to even change a posture without endangering everybody. She has no keel and leaks some, so we have to bail out often. But she is a good sea boat and rides the waves well if they are not too rough.

123 One evening we decided to get a message through to Juan Tomas, the
139 Chief, some twenty or thirty miles distant. Herrera promised to go if
[203] we gave him twenty thirty-thirty cartridges. He would go one day and
[494] return, the next, a round trip of about fifty miles. We gave him the message to tell those people we had a lot of things to trade for the things they use in every day life. Pelican skin kilts, bows and arrows, ollas, baby cradles, hair brushes and other interesting things. I had already made a trade with Blanco for his *balsa*, promising him sufficient lumber, nails and tools, to make a boat large enough to carry five men. This promise I fulfilled to the letter, and later on another expedition to Seriland I had the pleasure of sailing in this boat, which was well built and seaworthy. The unusual part of this bargain was that Blanco permitted me to deprive him of his only means (apparently) of making a living in hunting *cahuama* for himself and his family, freely and without hesitation, simply on my promise of lumber in the future. I was deeply touched by the trust reposed in me by this old sea rover.

322 These people are splendid mechanics with the crudest of tools---
[504] rocks, fire, bones, knives. For instance, the pole of the harpoon was composed of five pieces of driftwood and a seagoing boat which I saw in Guaymas, captured by Mexican fishermen after killing the Seri crew, was composed of fully one hundred pieces of driftwood fastened with nails made of wire, and tied with fiber, and all the seams were filled
[325] with a black composition of native origin resembling pitch. Previous to the use of old iron, harpoon points were made of ironwood, but now iron is universally used.

283 I asked old Blanco for some of his native rope. He gave me some of
[122] it. He said they get the slender roots of the mesquite and peel the bark, and then the girls and women chew the fibrous wood. This is shreaded and twisted into small two-stranded ropes. It is this rope, tied around and around, that holds the *carriso balsa* together.

ever washed; it is licked clean.

415 197 One time a bunch of Seris camped near a ranch and spied a white porcelain chamber pot sunning itself. They immediately secured it and began cooking in it, without washing it first. The rancher saw them and told them that it was dirty and told them not to cook in it. They said they would clean it up after they got through and leave it as it was before they finished with it. When they come to Hermosillo they get pots from heaps of city refuse and carry them back as prizes to the Island.

123 501 We made smokes to attract attention, but all to no purpose, until about three o'clock the car appeared. It could not come close to the beach as the sand was too soft, so we had to pack everything two hundred yards in soft sand. The balsa was very heavy and some distance away. It also had some things tied on it, so Bob pulled off his pants and we pushed it into the surf. Bob first stood up, but it rocked so he got on his knees and pushed out with a pole and got it headed to the rollers, after which it rode easier. He then lost his pole, and in struggling to recover it the balsa rolled over with him and dumped him in the surf, but he grabbed the side and rolled it right again. He could then touch bottom, so he came in through the surf with it and we dragged it up and unloaded three turtle shells and a few other things. There were four of us and we put oars under it and gradually lifted and carried it to the truck.

It must have weighed six hundred or seven hundred pounds, a good part of which was water. I must say I was glad to see it started on its long land-journey.

123 The Indian messenger had arrived with my note which brought the truck. Bob, Luis and the Mexican took the boat and tried to go into the place where they hid it, but it was low tide and the boat could not enter, so they beached it and walked to Agua Sarco where we had preceded them by two or three hours. We had, over the last of our grub, a little rice and beans. As many doves were flying about the water, I shot fifteen or twenty. One of my shots brought down seven doves.

439 123 Before night all the Seris were camped near us, and when Bob came, Louis had brought all our trade stuff, so I began bartering right away.

As all were hungry we gave each man and woman three cups of flour, and three pieces of *panoche*, cakes of coarse brown sugar. They were wild for this, so when they had finished they were well disposed.

On the Island I had been called a cheerful liar for promising things, but now it was different. Three new butcher knives, all bright and shiny, I traded for three rusty homemade affairs. Two were made of barrel hoops and one from the piece of a shovel. This was a way-up knife. For the violin I traded a harmonica, and for three carved

(text continues on p. 187)

439 123 little gods I traded some muslin, a harmonica and some *panoche*. For native hair brushes, I traded three fine-tooth combs for catching *piojos*, or lice, easier. I gave each woman a little round mirror and they were greatly pleased.

To the old Chief I presented a good pocket knife and a mirror. For the bow I traded a spark lighter. By striking the edge of a small wheel with milled edge it strikes a spark from a small flint and lights a wick.

123 535 [534] [252] [415] We asked for a dance, and the Seris, using the bow and striking sticks for music, the slender girl jumped up and down on a flat piece of tin which served, instead, of a turtle shell and also served for baking flour cakes upon also. A while before, Louis had seen a woman wash her head and that of a child in the chamber pot, empty the water and then cook in it.

After the girl had danced a while on the tin, old Manual Encina pushed her away and hopped on himself and did the double-shuffle for half an hour, after which we left for our camp.

197 194 The language of the Seris is the most difficult and peculiar I have ever heard. It is spoken deep in the throat with the mouth open and sounds like no other language I have ever heard except that there are some sounds like Papago.

439 123 Even before breakfast of the next day we were still trading with the Indians, and in an hour or so I possessed nearly everything they had except their rags. They seemed happy and contented and postponed their trip to Hermosillo. I left some stuff with Louis Thomson to be traded later for bows and arrows, Pelican skin dresses and baby cradles.

We then arranged our loads, said *Adios* to the Seris, and left for Hermosillo, where we arrived without accident about six-thirty p.m. The sun was very hot and the road heavy and the sun glaring, and we were all very tired when we reached town. I stored my stuff with Mr. Marks at Hotel Cohen, and will crate it before leaving for Yaqui River.

123 202 Before leaving the Seri Chief I told him that whenever he saw this sign---Circle Bar Deand left hand below it, it was me---their friend, and not to shoot at me. He said he would tell all the Seris, and I left him my card with the same sign on it. When will I see him again!

123 261 We were up long before the sun, the following day the eighth of March, but the baking of bread delayed our breakfast, so that while we ate, forty Indians were looking on at us. Little ones with streaming hair and fluttering shirt tails, paddled over the sand hills as fast as their brown legs could carry them in their fear of being late. Women in patched and ragged skirts hurried and plowed through the sand and over thorny mesquite brush to be in time---for what? To see the gringos eat their breakfast and to possibly pick up a few crumbs. Each grain of corn, each bean, even a piece of dough half the size of a dime is precious and carefully garnered and eaten.

To eat under the devouring eyes of these people who rarely have enough to eat and most of the time not half enough, to see the hungry dog-like look as I tried to swallow a piece of bread, to see the children half start up as if to run and seize it and watch the mothers jerk them back, to see them eye hungrily our sacks of provisions and not dart to touch them, is enough to make one choke.

Any bread left over we broke into little chunks and gave to the children. I then gave each child two lumps of cube sugar. A little later, as they would hide their sugar and try to repeat, I lined up fifteen or twenty eager, frowsy bare-legged boys and girls and gave each an orange.

123 431 Later, the mother would trade a basket or a hair brush for an orange, a knife for two oranges. They brought Pelican skin rugs made from six Pelican hides sewed together which used to form their kilts. For these I traded four yards of manta, or cotton goods, of which they made garments.

I soon had a thriving trade on hand, especially in necklaces. I had bought a few cheap glass bead necklaces at fifteen cents each. These set them wild. For native necklaces of seeds I traded the bead ones. I secured most of the necklaces, and when they ran out the children were sent by their mothers into the brush to gather more beans and seeds. These were hastily strung and hung around the neck and exposed to my admiring gaze, but it was useless as I would not trade any more beads. I had to save them for the Seris on the Island. I would have given everything away there.

Also, I had to consider the moral effect of them securing things without effort on their part. Only for service, must we pay in food or goods. For bringing food, water, to go hunting for us, or for trade---except giving things to the little children. It was heart-breaking, but they were lucky to have water. Like many others less primitive, they work, hunt, fish, only when hunger drives them.

231 With the people were a crowd of undersized, starved, bony dogs. A Seri cleans up everything and the dogs get the rest. Each day they are gnawing on some old fish head that is long past having any nourishment, and is tough and strong as rawhide, but hope springs eternal in an Indian dog's heart or stomach, and again and again, will they search out an old fish head or Pelican bone. Discouraged, never!

177 123 been fastened with a string---each child eager for a safety pin. A little child two and a half years old was shoved forward for a pin, its round black eyes dancing with anticipation, but its dress had no opening in front, so I laughed and shook my head and everyone appreciated the joke. But, not to be defeated, a little girl untied the child's waist from behind and spread it open, exposing its little brown body from head to feet, and called my earnest attention to it. I then pinned up the dress. Then the older ones crowded around me, but I had used up a whole paper of pins, so I shook my head. I gave the empty paper to an eager child, although a dozen hands were outstretched for it. By making the children happy I pleased the parents.

123 By this time the flour soup was thick and ready, and Roberto baled it out with a cup into the various vessels eagerly outstretched to receive it. As the cup would drip, little hands caught the priceless drops before they reached the sand. As each got his proportion he began sticking his fingers into the mess and licking them off. Many took their *pinole* to camp and the others secured a taste also. A small piece of bread dropped into the sand was snatched up, by a child, from under the nose of a dog. She rubbed off the sand and devoured it.

When all had vanished to their various camps I opened the box of candies---small round drops of green, red and yellow. I filled our coffee pot and went to each camp and gave each man, woman and child about ten candies.

439 123 Since I wanted shell necklaces, the women had combed the beaches and gathered plenty of shells, and strung them while resting. This evening they were draped about their necks, and they wished to trade, so I traded for about a dozen---one small round mirror for one, five needles for another, five safety pins for another, blue face paint for another. Mirrors were most in favor.

291 302 142

206 *Seri outside beauty parlor*